



Where ideas connect

Department of Environmental Quality
Division of Air Quality

Michael O. Leavitt
Governor

Dianne R. Nielson, Ph.D.
Executive Director

Richard W. Sprott
Director

150 North 1950 West
P.O. Box 144820
Salt Lake City, Utah 84114-4820
(801) 536-4099 Fax
(801) 536-4414 T.D.D.
www.deq.utah.gov

DAQE-IN0825005-03

October 22, 2003

Steven Thompson
Geneva Nitrogen, LLC
1165 N 1600 W
Vineyard, Utah 84057

Dear Mr. Thompson:

Re: Intent to Approve: Replacement of an Emergency Backup Boiler, Utah County, CDS A; NA;
TITLE V MAJOR, NSPS, SIP
Project Code: N0825-005

The attached document is the Intent to Approve (ITA) for the above-referenced project. ITAs are subject to public review. Any comments received shall be considered before an Approval Order is issued.

Future correspondence on this Intent to Approve should include the engineer's name as well as the DAQE number as shown on the upper right-hand corner of this letter. Please direct any technical questions you may have on this project to Mr. Jon Black. He may be reached at (801) 536-4047.

Sincerely,

Rusty Ruby, Manager
New Source Review Section

RR:JB:jc

cc: Utah County Health Department

Mike Owens, EPA Region VIII

STATE OF UTAH

Department of Environmental Quality

Division of Air Quality

**INTENT TO APPROVE: REPLACEMENT OF AN
EMERGENCY BACKUP BOILER**

Prepared By: Jon Black, Engineer
(801) 536-4047
Email: jblack@utah.gov

INTENT TO APPROVE NUMBER

DAQE-IN0825005-03

Date: October 22, 2003

Geneva Nitrogen Inc.
Source Contact
Steven Thompson
(801) 227-7300

Richard W. Sprott
Executive Secretary
Utah Air Quality Board

Abstract

Geneva Nitrogen LLC, has submitted a Notice of Intent to modify their current Approval Order DAQE AN0825004-03. The proposed modification includes the replacement of a 14.65 MMBTU/hr boiler with a 25 MMBTU/hr boiler with Low NOx burners. Best Available Control Technology will require that this replacement boiler have Low NOx burners, burn natural gas, and be limited to a 10% opacity limitation. Geneva Nitrogen is located in Utah County, which is a non-attainment area of the National Ambient Air Quality Standards (NAAQS) for PM₁₀. New Source Performance Standards (NSPS) 40 CFR 60 Subpart Dc (Standards of Performance for Small Industrial-Commercial-Institutional Steam Generation Units) applies to this source. National Emission Standards for Hazardous Air Pollutants (NESHAP) and Maximum Available Control Technology (MACT) regulations do not apply to this source. Title V of the 1990 Clean Air Act applies to this source. The Title V operating permit for this source shall be amended prior to the operation of the boiler installation. The emissions, in tons per year, will change as follows: PM₁₀ (+) 0.17, NO_x (-) 0.47, SO₂ (+) 0.01, CO (+) 4.60, and VOC (+) 0.30. The changes in emissions will result in the following potential to emit totals, in tons per year: PM₁₀ 111.17, NO_x 227.53, SO₂ 0.03, CO 4.6, and VOC 0.3.

The Notice of Intent (NOI) for the above-referenced project has been evaluated and has been found to be consistent with the requirements of the Utah Administrative Code Rule 307 (UAC R307). Air pollution producing sources and/or their air control facilities may not be constructed, installed, established, or modified prior to the issuance of an Approval Order (AO) by the Executive Secretary of the Utah Air Quality Board.

A 30-day public comment period will be held in accordance with UAC R307-401-4. A notice of intent to approve will be published in the Provo Daily Herald on October 26, 2003. During the public comment period the proposal and the evaluation of its impact on air quality will be available for both you and the public to review and comment. If anyone so requests a public hearing it will be held in accordance with UAC R307-401-4. The hearing will be held as close as practicable to the location of the source. Any comments received during the public comment period and the hearing will be evaluated.

Please review the proposed AO conditions during this period and make any comments you may have. The proposed conditions of the AO may be changed as a result of the comments received. Unless changed, the AO will be based upon the following conditions:

General Conditions:

1. This Approval Order (AO) applies to the following company:

Office Location

Geneva Nitrogen LLC
1165 North 1600 West
Vineyard, Utah 84057
Phone Number (801) 227-7300
Fax Number (801) 227-7303

The equipment listed in this AO shall be operated at the following location:

1165 North 1600 West, Vineyard, Utah 84057, Utah County

Universal Transverse Mercator (UTM) Coordinate System: UTM Datum NAD27
4,461.15 km. Northing, 436.88 km. Easting, Zone 12

2. All definitions, terms, abbreviations, and references used in this AO conform to those used in the Utah Administrative Code (UAC) Rule 307 (R307) and Title 40 of the Code of Federal Regulations (40 CFR). Unless noted otherwise, references cited in these AO conditions refer to those rules.
3. The limits set forth in this AO shall not be exceeded without prior approval in accordance with R307-401.
4. Modifications to the equipment or processes approved by this AO that could affect the emissions covered by this AO must be reviewed and approved in accordance with R307-401-1.
5. All records referenced in this AO which are required to be kept by the owner/operator, shall be made available to the Executive Secretary or Executive Secretary's representative upon request, and the records shall include the two-year period prior to the date of the request. Records shall be kept for the following minimum periods:
 - A. Emission inventories Five years from the due date of each emission statement or until the next inventory is due, whichever is longer.
 - B. All other records Two years
6. Geneva Nitrogen LLC, shall install and operate the emergency back-up boiler and shall conduct its operations of the nitric acid plant in accordance with the terms and conditions of this AO, which was written pursuant to Geneva Nitrogen's Notice of Intent submitted to the Division of Air Quality (DAQ) on April 1, 2003.
7. Regardless of any inconsistency between conditions of this AO and Section IX, Part H, Subpart 1.b.A for Geneva Nitrogen LLC, of Section IX, Part H (Emission Limitations) of the SIP, this AO shall take precedence as provided by R307-305-2. The language of Section IX, Part H.1.a and Section IX, Part H, 1.b.A have been incorporated into this AO.
8. This AO shall replace the AO (DAQE-AN0825004-03) dated March 7, 2003.
9. The approved installations shall consist of the following equipment or equivalent*:
 - A. Montecatini Acid Plant with low temperature selective catalytic reduction unit
 - B. Weatherly Acid Plant with low temperature selective catalytic reduction unit
 - C. Predryer with cyclone scrubber system
 - D. Dryer with cyclone scrubber system
 - E. Coolers with cyclone scrubber system
 - F. 4th Scrubber

- G. Cooling Tower
- H. Coating and Handling Baghouse
- I. Prill Tower
- J. Natural Gas fired Boiler*
 Manufacturer: Cleaver Brooks
 MMBTU/hr: 25.0
 Burners: Low NOx

* Equivalency shall be determined by the Executive Secretary

- 10. Geneva Nitrogen LLC shall calibrate, maintain, and operate the semi-continuous NO_x monitoring systems supplied with the selective catalytic reduction units installed on the Montecatini Acid Plant Vent and the Weatherly Acid Plant Vent. A record of the output of the monitoring system shall be made available to the Executive Secretary or a representative upon request.
- 11. Geneva Nitrogen LLC shall notify the Executive Secretary in writing when the installation of the equipment listed in Condition #9.J has been completed and is operational, as an initial compliance inspection is required. To insure proper credit when notifying the Executive Secretary, send your correspondence to the Executive Secretary, attn: Compliance Section

If installation has not been completed within eighteen months from the date of this AO, the Executive Secretary shall be notified in writing on the status of the installation. At that time, the Executive Secretary shall require documentation of the continuous installation of the operation and may revoke the AO in accordance with R307-401-11.

Limitations and Tests Procedures

- 12. Emissions to the atmosphere at all times from the indicated emission points shall not exceed the following rates and concentrations:

Source: Montecatini Acid Plant Vent

<u>Pollutant</u>	<u>lb/hr</u>	<u>ppmdv</u>
NO _x	32.4.....	267.0

Source: Weatherly Acid Plant Vent

<u>Pollutant</u>	<u>lb/hr</u>	<u>ppmdv</u>
NO _x	19.4.....	438.0

- 13. Stack testing to show compliance with the emission limitations stated in the above condition shall be performed as specified below:

A.			Testing	Test
	<u>Emissions Point</u>	<u>Pollutant</u>	<u>Status</u>	<u>Frequency</u>
	Montecatini Acid Plant Vent	NO _x	*	@
	Weatherly Acid Plant Vent	NO _x	*	#

B. Testing Status (To be applied above)

* The latest compliance testing was completed on September 3-4, 2003.

@ Test every two years. The Executive Secretary may require testing at any time. Tests may be required if the source is suspected to be in violation with other conditions of this AO.

Test every three years. The Executive Secretary may require testing at any time. Tests may be required if the source is suspected to be in violation with other conditions of this AO.

C. Notification

At least 30 days prior to conducting any emission testing required under any part of UAC, R307, the owner or operator shall notify the Executive Secretary of the date, time and place of such testing and, if determined necessary by the Executive Secretary, the owner or operator shall attend a pretest conference. A source test protocol shall be submitted to DAQ when the testing notification is submitted to the Executive Secretary. The source test protocol shall be approved by the Executive Secretary prior to performing the test(s). The source test protocol shall outline the proposed test methodologies, stack to be tested, and procedures to be used. A pretest conference shall be held, if directed by the Executive Secretary. The pretest conference shall include representation from the owner/operator, the tester, and the Executive Secretary. The emission point shall be designed to conform to the requirements of 40 CFR 60, Appendix A, Method 1, or other methods as approved by the Executive Secretary. An Occupational Safety and Health Administration (OSHA) or Mine Safety and Health Administration (MSHA) approved access shall be provided to the test location.

D. Volumetric Flow Rate

40 CFR 60, Appendix A, Method 2

E. Nitrogen Oxides

40 CFR 60, Appendix A, Method 7, 7A, 7B, 7C, 7D, or 7E

F. Calculations

To determine mass emission rates (lb/hr, etc.) the pollutant concentration as determined by the appropriate methods above shall be multiplied by the volumetric flow rate and any necessary conversion factors determined by the

Executive Secretary, to give the results in the specified units of the emission limitation.

G. New Source Operation

For a new source/emission point, the production rate during all compliance testing shall be no less than 90% of the production rate listed in this AO. If the maximum AO allowable production rate has not been achieved at the time of the test, the following procedure shall be followed:

- 1) Testing shall be at no less than 90% of the production rate achieved to date.
- 2) If the test is passed, the new maximum allowable production rate shall be 110% of the tested achieved rate, but not more than the maximum allowable production rate. This new allowable maximum production rate shall remain in effect until successfully tested at a higher rate.
- 3) The owner/operator shall request a higher production rate when necessary. Testing at no less than 90% of the higher rate shall be conducted. A new maximum production rate (110% of the new rate) will then be allowed if the test is successful. This process may be repeated until the maximum AO production rate is achieved.

H. Existing Source Operation

For an existing source/emission point, the production rate during all compliance testing shall be no less than 90% of the maximum production achieved in the previous three (3) years.

14. Visible emissions from the following emission points shall not exceed the following values:
- A. Prill Tower- 20% opacity
 - B. Boiler Exhaust Stack – 10% opacity
 - C. All other points - 10% opacity

Opacity observations of emissions from stationary sources shall be conducted according to 40 CFR 60, Appendix A, Method 9.

15. The following production and/or consumption limits shall not be exceeded:
- A. 14 tons/hr Solid Ammonium Nitrate
 - B. 122,640 tons/rolling 12-month period Solid Ammonium Nitrate
 - C. 13.5 tons/hr Nitric Acid (based on 100% acid)
 - D. 113,400 tons/rolling 12-month period Nitric Acid (based on 100% acid)
 - E. 8,640 hours per rolling 12-month period operation

- F. 109.5×10^6 standard cubic feet of natural gas consumed by the boiler per rolling 12-month period

Compliance with the limitations shall be determined on a rolling 12-month total. Based on the first day of each month a new 12-month total shall be calculated using the previous 12 months. Records of production/consumption shall be kept for all periods when the plant is in operation. Records of production/consumption shall be made available to the Executive Secretary or a representative upon request and shall include a period of two years ending with the date of the request.

Plant records shall determine nitric acid production. Solid phase ammonium nitrate production shall be determined by examining sales/shipping records, tons shipped minus tons received from off-site production equals tons produced on-site. All records shall be kept on a daily basis. A fuel meter or natural gas fuel bills shall determine records of natural gas usage. Hours of operation shall be determined by supervisor monitoring and maintaining of an operations log.

Fuels

16. Geneva Nitrogen LLC shall use natural gas as fuel in the boiler.

Federal Limitations and Requirements

17. In addition to the requirements of this AO, all applicable provisions of 40 CFR 60, New Source Performance Standards (NSPS) Subpart A, 40 CFR 60.1 to 60.18 (General Provisions), and Subpart Dc, 40 CFR 60.40c to 60.48c (Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units) apply to this installation. To be in compliance, this facility must operate in accordance with the most current version of 40 CFR 60 applicable to this installation/plant/source.

Records & Miscellaneous

18. At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any equipment approved under this Approval Order including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Executive Secretary which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. All maintenance performed on equipment authorized by this AO shall be recorded.
19. Geneva Nitrogen LLC shall comply with R307-150 Series. Inventories, Testing and Monitoring.
20. Geneva Nitrogen LLC shall comply with R307-107. General Requirements: Unavoidable Breakdowns.

The Executive Secretary shall be notified in writing if the company is sold or changes its name.

This AO in no way releases the owner or operator from any liability for compliance with all other applicable federal, state, and local regulations including R307.

A copy of the rules, regulations and/or attachments addressed in this AO may be obtained by contacting the Division of Air Quality. The Utah Administrative Code R307 rules used by DAQ, the Notice of Intent (NOI) guide, and other air quality documents and forms may also be obtained on the Internet at the following web site:

<http://www.airquality.utah.gov/>

The annual emissions estimations below include point source emissions. These emissions are for the purpose of determining the applicability of Prevention of Significant Deterioration, non-attainment area, maintenance area, and Title V source requirements of the R307. They are not to be used for determining compliance.

The Potential To Emit (PTE) emissions for this source (the entire plant) are currently calculated at the following values:

	<u>Pollutant</u>	<u>Tons/yr</u>
A.	PM ₁₀	111.17
B.	SO ₂	0.03
C.	NO _x	227.53
D.	CO.....	4.60
E.	VOC.....	0.30

The Division of Air Quality is authorized to charge a fee for reimbursement of the actual costs incurred in the issuance of an AO. An invoice will follow upon issuance of the final Approval Order.

Sincerely,

Rusty Ruby, Manager
New Source Review Section